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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PHARMACEUTICAL COMPOSITIONS COMPRISING THIENO[2,3-C]PYRIDINE DERIVATIVES AND USE THEREOF

(57) Abstract: The present invention provides thieno[2,3-C]pyridine derivatives, pharmaceutical compositions comprising the thieno[2,3-C]pyridine derivatives, and methods of use thereof. The compounds capable of inhibiting glycosaminoglycan (GAG) interactions with effector cell adhesion molecules (ECAM) are useful for treating diseases and disorders mediated by GAG-ECAMs interactions, particularly inflammatory and autoimmune diseases, viral diseases, cancer, and amyloid disorders.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL04/00121

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 31/4365, 31/496, 31/5355, 31/55; C07D 495/04; A61P 29/00, 7/02
US CL : 514/301, 217.07, 233.8, 253.04; 544/362; 546/114

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 514/301, 217.07, 233.8, 253.04; 544/362; 546/114

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAS ONLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BALAKIN et al. Property-based design of GPCR-targeted library. J. Chem. Inf. Comput. Sci. 2002, Vol. 42, pages 1332-1342, especially page 1339, Fig. 5.	3, 4, 7, 9, 15-18
A	US 6,232,320 B1 (STEWART et al) 15 May 2001 (15.05.2001), see entire document, especially columns 2, 12.	1-19, 21-37, 41-43
A	FUJITA et al. Synthesis and bioactivities of novel bicyclic thiophenes and 4, 5, 6, 7-tetrahydrothieno[2,3-c]pyridines as inhibitors of tumor necrosis factor-alpha (TNF-alpha) production. Bioorganic & Medicinal Chemistry Letters. 2002, Vol. 12, pages 1897-1900, especially page 1899, Table 3.	1-19, 21-37, 41-43
A	FUJITA et al. Synthesis and bioactivities of novel 4,5,6,7-tetrahydrothieno[2,3-c]pyridines as inhibitors of tumor necrosis factor-alpha (TNF-alpha) production. Bioorganic & Medicinal Chemistry Letters. 2002, Vol. 12, pages 1607-1611, especially page 1608.	1-19, 21-37, 41-43

☐ Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL04/00121

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 20 and 38-40
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest.

☐

No protest accompanied the payment of additional search fees.